

1 Navy Case No. 82,493

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PROCESSING OF SHIPBOARD WASTEWATER

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ABSTRACT OF THE DISCLOSURE

5 Incoming wastewater is preheated in a heat exchanger before delivery to a flash chamber
6 through an orifice for flashing into water vapor rising into an upper section of the flash chamber
7 which also has a bottom section into which liquid waste oil or other contaminants settles. Rise of
8 such water vapor into the upper chamber section is induced by a vacuum established therein by a
9 vacuum pump withdrawing the water vapor in a superheated and compressed condition for
10 cooling within a condenser from which the incoming wastewater is delivered to a heat exchanger
11 for preheating. The water vapor during rise into the upper section of the flash chamber is filtered
12 to extract contaminates therefrom while liquefied water vapor thereafter formed therein is
13 collected before the remaining water vapor is cooled into the condensate for collection within a
14 distillate tank from which it is withdrawn for overboard discharge after being monitored for oil
15 content. The waste oil and other contaminants in the flash chamber are also withdrawn for
16 separate collection and storage. Such collections of the condensate extracted from the water
17 vapor, the liquefied water vapor and the waste oil and other contaminants are effected by pumps
18 driven under automatic control. Contaminants at the bottom of the flash chamber may consist of
19 oil, detergents, etc.

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